CGDN+ Overview

Background

The US Coast Guard Data Network Plus (CGDN+) is a state-of-the-art nationwide private, Internet Protocol (IP) router network service employing FTS2001 and NON-FTS2001 services for inter-city connectivity and data transport. The US Coast Guard's Telecommunications and Information Systems Command (TISCOM) has the primary responsibility to design, deploy, operate, and support of information technology infrastructure, including CGDN+.

The CGDN+ uses current technology and equipment to provide the most effective system for meeting all approved Government data communications user requirements. CGDN+ is comprised of:

- a switched backbone network with nodes at specified sites and user end points serving all sites requiring dedicated access;
- all equipment required for user access and network operation;
- FTS2001 and non-FTS2001 connectivity and services;
- Triple-Data Encryption Standard (3DES) encryption;
- a Network Control Center (NCC); and
- internetworking routers;

Architecture

The architecture and topology of the CGDN+ is optimized to meet current and projected data communications requirements and is often modified, as required, to accommodate growth, changes in requirements, and enhancements in the FTS2001 services.

The CGDN+ provides data network services based upon Transmission Control Protocol/Internet Protocol (TCP/IP) Version 4 (IPv.4) suite of protocols among geographically dispersed Government users and computer resources. It is inter-networked with Coast Guard local networks to securely support Sensitive but Unclassified (SBU) interactive sessions, and message, file, and bulk data transfer. The CGDN+ is also capable of supporting TCP/IP Version 6 (IPv.6) suite of protocols, including but not limited to User Datagram Protocol (UDP), as specified by the Internet Engineering ask Force (IETF) specifications, RFC 2460.

It consists of a backbone of 20 Tier I nodes connected by DS3 circuits as well as 90 Tier II and 351 Tier III sites connected by T-1 circuits, which provide services to approximately 40,000 U.S. Coast Guard users.

The CGDN+ primarily uses General Services Administration (GSA)'s FTS2001-based digital transmission circuits for connecting various nodes.

Network Availability and Performance

The CGDN+ is available 24 hours a day, 7 days a week, and has achieved minimum of 99.9% network availability across all routers for the past year. The expected latency between routers on the CGDN+ Wide Area Network (WAN) is less than 100ms.